the fullest recognition of the extremely complex magmatic solutions from which they have come and of the varied conditions determining the characters of the rocks themselves, and not infrequently producing rocks of different mineral composition from a single magma.

This volume is a treatise on igneous rocks which is manifestly an unfettered expression of the author's understanding of them rather than a text-book. Yet it outlines so logically the view of these objects which the student should be made to understand that it may be used as the basis of instruction in all advanced courses.

The book appears in uniform style with "Rock Minerals" by the same author. The second volume, descriptive of known rocks, is in preparation, and will be awaited with interest and with the hope that the author may be successful in making his subject more attractive than is the case with existing literature of the kind.   WHITMAN CROSS

Railroad Structures and Estimates. By J. W. ORRUCK, C.E. New York, John Wiley & Sons. 270 pages, 94 illustrations. $3 net.

Probably the primary purpose of this book is to furnish data for estimating the various parts of a railroad, and it contains a compilation of cost data which should prove of value to many a young engineer, not only in furnishing reasonable figures of costs, but also in stimulating him to secure similar figures for his own locality or from his own railroad. Costs vary from time to time and also locally, so that figures for estimates can not safely be swallowed whole either from this book or any other. A book of this sort then should find its best value in suggesting methods of cost estimation, and in analyzing the constituent parts of costs. This book is somewhat uneven from this standpoint, some chapters having the elements of cost well classified, while others are very general, as in the costs of tunnels where a short table of costs per lineal foot is quoted from Drinker's rather ancient treatise; while the estimates for turnouts are itemized, the cost of a split switch is given as $30 to $50; and similarly for laying and sur-

facing it, $30 to $50; a variation of considerable amount without special explanation to account for it. The criticism applies perhaps to the difficulty of the subject rather than to inferiority of treatment.

The compilation of cost data involves a knowledge of the structures or materials to be built or used; as a result a large share of the book is given to such descriptions, or sometimes practically specifications. There are given, also, a number of tables which seem hardly consistent with the general purpose of the book; among these are one "for putting in frogs and switches," others for "feet head and equivalent pressure in pounds per square inch," "friction of water in pipes," "friction of water in elbows"; also a table of "horsepower."

The chapter on buildings, covering eighty-eight pages, is quite largely given to descriptions, and these cover many classes of buildings; it has not quite the merit of a treatise and yet any one is likely to find there something he wants and which is worth while. In the estimates of this chapter, some are well analyzed and itemized, while some others are very general and with wide range of cost values, a freight shed with modern floors being estimated at 25 to 50 cents per square foot.

The chapter on Specifications and Contracts, covering thirty-one pages, is inadequate, and except for four pages on estimates, hardly in line with the apparent purpose of the book.

The book in its mechanical make-up has the general appearance and quality of the Wiley books on engineering, which means that it is satisfactory. The scope is indicated by the following Chapter Index:

I. Track Materials. II. Fences, gates, sign posts. III. Culverts. IV. Bridges. V. Buildings. VI. Water Stations. VII. Tanks. VIII. Specifications and Contracts. IX. Estimating Notes.

C. F. ALLEN

Neuere Ergebnisse auf dem Gebiete der Speziellen Eiweisschemie. PROF. EMIL ABDERHALDEN. Jena, Verlag v. Gustav Fischer.

" Die Neueren Ergebnisse auf dem Gebiete